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ABSTRACT

This discussion of cooperative second language learning describes the approach in terms of response to three questions: WHO? WHAT? and WHY? The first section "WHO: Major Directors and Actors," chronicles the evolution of cooperative learning in general and cooperative language learning in particular, citing some specific methods and the individuals who developed and promoted them. The second section, "WHAT: Characteristics and Competitors," begins by defining some major paradigms of cooperative learning: Aronson's Jigsaw Classroom; DeVries' Teams-Games-Tournaments; Slavin's Student Teams and Academic Divisions; and the Group Investigation approach. This form of learning is then contrasted with competitive and individualistic learning approaches, especially with regard to the structuring of rewards and incentives. Commonalities between the three learning approaches are also examined. The third section looks at evidence of the efficacy of cooperative learning, citing research and theory on its use of comprehensible input, its efficiency, the effective use of social interaction, and its authenticity and realistic grounding. Objections to the use of cooperative learning in second language instruction are also noted and rebutted. These include the criticisms that students can acquire flawed language from peers, that cooperative learning promotes classroom chaos, and that native language use or code-switching will be tolerated by peers. Four types of instructional materials are described: manufactured; teacher-developed; teacher-adapted; and authentic. (MSE)

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Co-operative Language Learning: What's News?

Ted Rodgers

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CO-OPERATIVE LANGUAGE LEARNING: WHAT'S NEWS?

Ted Rodgers

In 1969 I attended my first RELC Seminar. I think, in fact, it was the first RELC Seminar. At that time I talked a bit about co-operative learning in connection with a new language program we were designing in Hawaii called the Hawaii English Program. The idea of making co-operative learning a central part of a mainstream educational program was a very new one at that time and one that met with considerable comment, both positive and negative. Some of the co-operative learning elements in the Hawaii English Program proved too controversial with educators and sponsors, some proved to be not as effective as alternative approaches, some proved difficult to manage in day to day classroom situations, and some merely slipped silently into the silvery sands of Hawaii without apparent rhyme or rhythm. (I'm sure many of you are familiar with apparently successful materials and programs in your own situations that likewise die of unknown causes).

However, many of the co-operative elements of the Hawaii English Program were effective, were accepted and are still found in Hawaii's classrooms. I plan to show some slides containing some of these co-operative learning elements and which show examples of students using materials designed to support these elements. I also want to talk about some of the factors that intruded on the successful use of such elements and which might act as cautions as we enter upon another era of enthusiasm for co-operative learning.

This paper, then, will be somewhat of a primer in co-operative/collaborative learning with particular attention to materials used to support co-operative/collaborative learning. The accompanying workshop will then provide an opportunity to examine, use, critique and construct some of the kinds of materials that have been proposed for and are currently being used in co-operative learning based classrooms.

I felt that a presentation on co-operative learning was timely in 1969. In some ways, such a presentation is even more timely in 1988. Co-operative or collaborative learning is receiving increasing attention from general educators and from language educators in particular. When I talked on co-operative language learning at the 1983 TESOL Convention in Toronto, there were no other presenta-

tions with a co-operative focus. At the 1988 TESOL Convention in Chicago, there were more than ten presentations specifically focused on co-operative learning and several more in which co-operative learning was a subsidiary theme. A TESOL keynote speaker was Spenser Kagan, a psychologist with particular interests in co-operative learning but with no particular background in language learning or teaching. This current interest among language educators signals a coming of age (or in view of the Hawaii English Program experience, a second coming of age) for co-operative language learning.

There has been a proliferation of papers on the topic of co-operative/collaborative learning in the last several years. It is difficult to summarize this outpouring of opinion, classroom activities, and proto-research reports. However, I will try to at least outline the territory.

As an organizational device I have used the not very original schema by which newspaper journalists are trained to write news leads. The news lead, like this paper, should answer the basic questions WHO, WHAT, WHY, WHERE, WHEN, AND HOW. These are usually known as the 5W's and an H. (AKA Huey Lewis and the News). There are a couple of sub-themes within each of the major themes. These are suggested by the sub-theme titles and the following text. Three of the themes - WHERE, WHEN, and HOW - lend themselves better to demonstration than description. These I hope to handle in the Workshop more or less accompanying this presentation. Responses to the questions WHO, WHAT, AND WHY, then, define the body of this presentation.

WHO : Major Directors and Actors
WHAT : Characteristics and Competitors
WHY : Ideology and Efficacy
WHERE: Community and Class Context (Workshop)
WHEN : Ages and Stages (Workshop)
HOW : Methods and Management (Workshop)

These issues, as in the case of the news lead, will not receive equal treatment but will be accorded space on the basis of available information and reporter bias.

I WHO: MAJOR DIRECTORS AND ACTORS

The notion of cooperative learning, especially peer tutoring, is not new. Mutual instruction has been found since ancient times in Hindu schools and was practised fairly widely in first-century Rome. In Spain in the sixteenth century, in France in the seventeenth century, in England in the eighteenth century and in New England in the nineteenth century we find records of peer tutoring or

monitorial systems. The first educational figure to leave a personal endorsement of peer teaching was Comenius, circa 1630. Comenius observed that "The saying, 'He who teaches others, teaches himself,' is very true, not only because constant repetition impresses a fact indelibly on the mind, but because the process of teaching in itself gives deeper insight into the subject taught."

In the US, John Dewey is often credited with promoting the idea of building co-operation in learning into regular classrooms on some sort of regular and systematic basis. Having bestowed ritual credit on Dewey, most contemporary co-operative learning gurus then forward claims for the uniqueness of their own views of co-operation in learning. Shlomo Sharon, one of the more magnanimous of this guru group, gives the following somewhat exclusive acknowledgement to co-directors in the field of co-operative education.

> "The five methods (of co-operative education) are: Aronson's Jigsaw classroom, DeVries' Teams-Games-Tournaments (TGT), Slavin's Student Teams and Academic Divisions (STAD), the Johnsons' co-operative learning approach, and the Sharan's Small Group Teaching method. The former three methods are categorized as Peer-tutoring methods, while the latter two are classified as examples of a Group-Investigation (G-I) approach."

Certainly other names could be added to these. Spencer Kagan, mentioned earlier as this year's TESOL keynote speaker, would be one, since Kagan has been doing cross-cultural research on co-operative vs competitive incentives in classrooms for the last twenty years. Kagan, like a number of other researchers, has borrowed most of his experimental activities from the designs of teachers, whom he credits in his work. Recently Donald Dansereau and his colleagues have introduced systematic manipulation of specific learning and interaction strategies within dyadic learning situations involving classroom instruction in the teaching of reading and writing. The Dansereau studies represent the most serious attempt to date to look at critical variables within co-operative learning tasks.

There are a number of lesser known lights, in which set of lower luminaries I might put Adrian Palmer, Judy Winn-Bell Olsen and myself, who have contributed a variety of co-operative learning materials to the common store of such activities. Jerry Dykstra, Paul Heinberg, Bert Byers and others in the Communication Department at the University of Hawaii, worked on a number of pair-learning designs which still form the basis for many of the peer-tutoring activities which others have borrowed and adapted. Research contributors from the second language community include Yael Bejarano, Steve Gaies, Mike Long, Pat Porter and a growing number of others several of whom are cited in the text and bibliography.

A lot of the "players", the students involved in reported co-operative learning classes or experimental laboratories, have come from special purpose learning situations, and often special learning situations in the US, UK, and Israel. This has sometimes caused educators outside these orbits (for example, most of you here) to question whether co-operative learning exercises can be adapted to educational situations which have large classes, limited resources and a minority of teachers trained in non-standard educational approaches. In this connection the "Each-one, Teach-one" cross-age tutoring experiments in Malaysia (Rodgers, 1985) and the experience with the JILAP/ILLP peer-tutoring materials in Thailand (Umrod, 1975) provide published commentary on both successes in and limitations to co-operative learning in the SEAMEO region.

II WHAT: CHARACTERISTICS AND COMPETITORS

Before beginning an analysis of the defining dimensions of cooperative learning, it may be useful to describe briefly some of the formats which have collectively become identified as cooperative learning paradigms. Sharon, cited earlier, identified cooperative learning types as five in number. As I indicated, also earlier, I think Sharon's perspective is too limited. However, describing the five activity types will give a sense of some cooperative learning styles for those otherwise unfamiliar with this genre.

Jigsaw. In Jigsaw, each member of a 5-6 member "home" group is fed a unique block of information relative to a topic the group is studying. This is the group member's piece of the "jigsaw puzzle". After group members read the information in their block, they split up and meet in "expert groups" with members of other groups who are responsible for mastering the same block of information. After "expert group" discussions, students return to their "home" groups to teach their fellow group members the content of their information block. Students are then tested individually or as a group on the total topic content.

Teams-Games-Tournaments (TGT) and Student Teams and Achievement Divisions (STAD). TGT and STAD are peer-tutoring methods in which team members drill and assist each other in learning teacher-assigned content. Individual team members then take part in academic competition built around the content (TGT) or are tested by the teacher in a situation which does not involve face-to-face competition (STAD). Both of these methods rely on within-group co-operation and across-group competition as their motivating forces.

Group Investigation. (Including the Johnsons' cooperative learning approach and the Sharans' Small Group Teaching Method). In these approaches students work to produce a group project within a broader area of teacher-defined study. Differences between the two methods are essentially whether structuring is

undefined (The Johnsons) or defined (The Sharans). In both cases students design their own study plan and determine individual tasks. Individual students gather information and bring it back to the group. The group analyzes and organizes the information collection and determines an interesting way to present their group findings to the other groups. The teacher and other groups make an evaluation of the group presentation which may include both individual and group evaluation.

There are other cooperative learning paradigms which we will look at in the Workshop, but these should give a sense of the whole.

At this point one might typically expect a definition of cooperative learning which embraces the examples. However, in the case of co-operative learning, it is the fashion to define the phenomenon by describing not what it is but rather what it is not. I will follow this tradition for reasons which may become clear.

Johnson (1979), Kagan (1987) and most significant others feel that co-operative learning is best understood in the context of differentiation from competitive learning and individualistic learning involving task structures and reward structures. Let us break these down. In brief, task structures deal with how students learn and reward/incentive structures with how students are evaluated. A task structure may require the student to compete against another student (eg in a spelling bee), to work alone (eg on a work sheet), or work co-operatively (eg in a small group). The reward/incentive structure defines how rewards (eg grades) are distributed. Grades can be given to individuals, teams, or to the class as a whole. If the highest grade in the class is given to the best student in the class and the worst grade is given to the bottom student (eg by curve or norm-referenced grading), the result is a competitive reward structure. If grades are based on, say, individual improvement, an individualistic reward structure is created, and students will not (necessarily) feel in competition, especially if all students can improve and receive equal rewards. If grades are averaged across team members or are based on whole class improvement than a co-operative reward structure has been created, and students (should) feel it is their best interest to see that other team or class members do well, in that every student's success will contribute to every other student's success.

Note that task structures and reward structures are, in principal, indedpendent. In a basketbnall game played in the normal manner both task structure and reward structure are, for team members, co-operative. That is, the task encourages team members to score to help their team win. A player on a losing team who scores fifty points loses just as badly as a player on the same team who scores 1 point. On the other hand if one designs a basketball game such that players play together on a team but are rewarded personally on the basis of points scored (ie there are winning players rather than winning teams) than the task structure is still co-operative (someone must put the ball in play so someone

else can shoot) but the reward structure is competitive (players can succeed at the expense of their teammates who scored fewer points).

Individualistic structuring essentially assumes the independence of one student from another both in work style and in reward structuring. If a student works alone on a task and is rewarded for either how he compares with a pre-determined standard (criterion-referenced grading) or for how much he has progressed since previously assessed on a similar task, then the task and the reward are individualistically structured.

The most typical situation in co-operative learning is one that incorporates both co-operative task structure and co-operative reward structure. For example, a high ability student studies together with a low ability student for a test (co-operative task structure) and the grade for both students is determined by averaging the test grade of the high ability student with that of the low ability student (co-operative reward structure).

In non-school situations, people can often re-structure a task or a reward to their own choosing. For example, a marathon is typically thought of as a competitive event in which runners are publicly ranked in terms of their order of finish. However, the 10,000 people who run in the Honolulu Marathon do not all expect to win. For many, to finish is to win. For others, to better their previous best time is to win. They have "re-defined" a competitive reward structure as an individualistic one. For some runners, the comaradarie of other runners is their reason for running. They have "re-defined" a competitive task structure as a co-operative one.

Much of the research on co-operative learning reported to date, focuses on the relative efficacy of competitive, individualistic and co-operative task and reward/incentive structuring. In a summary of this research, Slavin notes, with some emphasis, that "The results of the field experimental research on co-operative learning methods indicate that the positive effects of these methods on student achievement result from the use of co-operative incentives, not co-operative tasks" (Slavin, 1984). Baldly stated, this means that co-operative learning is successful only when students are grade-tied, when each student's grade is determined by the success of his team. It should be cautioned that Slavin was talking to elementary school educators in the quoted piece and that, as well, Slavin has a particular committment to the design and manipulation of co-operative incentive structures. Nevertheless, in that most co-operative language learning materials focus only on co-operative task structuring and ignore co-operative incentive structuring, we need to examine carefully the applicability of Slavin's claim to our own language learning situations.

Having discussed competitive, individualistic and co-operative task and reward structures at some length, let me turn briefly to some characterizations of co-operative learning as they have appeared in recent discussion. It should be noted that while most commentators on co-operative learning accept the differentia-

tion between competitive, individualistic, and co-operative learning outlined above, there is less agreement as to how co-operative learning should be defined. As Slavin notes,

> "The cooperative learning methods share the idea that students work in groups to accomplish a group goal. But in every other particular they are quite different from one another. STAD, TGT, and TAI are highly structured, with well-specified group tasks and group rewards (recognition in a newsletter, certificates), while Group-Investigation and Learning Together give more autonomy to students and usually have less well-specified group rewards. Jigsaw and Jigsaw II are used primarily in social studies, and TAI is designed only for mathematics, while STAD, TGT and Learning Together are used in all subjects. STAD, TGT, Jigsaw II use competition between teams to motivate students to cooperate within their teams, while Group-Investigation, Learning Together, TAI, and the original form of Jigsaw do not.
> Finally, STAD, TGT and TAI are designed to help students learn a specific set of skills, such as adding fractions, putting commas in a series, reading, charts, and graphs, or understanding how chemical compounds are formed, while Group- Investigation in particular is designed primarily to get students to think creatively about concepts and learn group self-organizational skills".
>
> (Slavin, 1983)

Despite the differences between cooperative learning methods just cited, there do appear to be some commonalities among such methods. One commentator on cooperative learning has summarized these commonalities as follows,

> "Cooperative learning entails the creation of small heterogeneous student teams who work toward a common goal under these basic principles:
>
> * Positive interdependence and distributed leadership - all team members are needed to accomplish the group task; no individual is allowed to dominate;
> * Individual accountability for group work, so that no student can 'freeload' on the efforts of others;
> * Face-to-Face interaction/discussion by group members to promote new ideas and closeness;
> * Specific instruction in group process and interpersonal cooperation, so students can learn to become effective team members; and
> * Group autonomy - students manage their own group processes and problems.
>
> The teacher sets the stage for group work; instructs students in the skills required; serves as a resourse; monitors and evaluates academic learning and

group process skills; but rarely intervenes to 'take over' if students run into difficulties."

(SMERC, 1986)

A definition for communicative language teaching games (CLTG's) shares some of the properties of the characterization given above and relates more specifically to the interests of language educators. CLTG's have been defined as "pair or small group co-operative activities with well-defined tasks but undefined language, in which there exists between players an information gap or built-in disagreement." (Palmer and Rodgers, 1983). Many of the packaged materials for language teaching which have been described as "cooperative" in orientation share most of the above features.

III WHY: IDEOLOGY AND EFFICACY

Educators who have proposed, done research on, or developed materials for cooperative learning all appear to share a strong ideological committment to cooperation in education. Cooperation was part of the Deweyian ethic. It formed an ideological cornerstone for many of "Alternative" schools of the 1960's and 1970's. Even those professional research specialists who one might expect would choose to keep some emotional distance between themselves and the object of their study seem to come with or come to a strong ideological commitment to cooperative learning. For example, Spencer Kagan, an experimental psychologist, speaks of cooperative learning in these terms.

"We need cooperative learning also if we are to preserve democracy. Exclusive use of autocratic, teacher dominated classroom structures leave students unprepared for participation in a democratic society...Cooperative, interdependent educational experiences in our classrooms are necessary if we hope to make possible the democratic ideal of informed and equal participation."

(Kagan, 1987)

There have been a variety of less consecrated claims put forward by those interested in co-operative learning, some of which have been supported by empirical research. Long and Porter (1985) offer five pedagogical arguments for the use of group work in second language teaching. "They concern group work's potential for increasing the quantity of language practice opportunities, for improving the quality of student talk, for individualizing instruction, for creating a positive affective climate in the classroom, and for raising student motivation."

Kagan (1986) holds that cooperative learning was created to respond to critical social issues in, especially, US education and that studies have shown that

cooperative learning has, indeed, proven its effectiveness in improving ethnic relations, given minority students a stronger motivation to succeed in formal schooling and contributed substantially to the prosocial development of students.

For second language educators, the most relevant claims and the evidence for substantiation of these claims can be loosely categorized under four broad headings. I have labelled these headings so that they can be displayed graphically like a compass rose. Like a compass rose, these can be conceptualized as N.E.S.W. (North, East, South, West) or, in the case of claims put forward for co-operative learning, the claims for Negotiation, Efficiency, Sociability and Worldliness. I have taken a bit of liberty with my labels for the sake of the compass rose mnemonic (My rose by any other names would not sell as sweetly). Let me now describe the rose and defend my categories and their labels.

1. Negotiation. Many commentators have argued the important role that comprehensible input plays in second language acquisition (eg Krashen, 1982). To make his language comprehensible, a language sender can adjust speed, clarity, concreteness of reference, sentence length, vocabulary choice, use of extralinguistic context etc in accordance with the perceived need of the receiver. The receiver signals that message modification is necessary through feedback to the sender. Feedback may be verbal (question-asking, requests for repetition, etc) or non-verbal (perplexity of expression, in attention, etc). This interplay of sender and listener messages results in "Negotiation of Meaning" and "Negotiation of Interaction" (Long, 1983). While such negotiation is untypical of much of the language use in teacher-centered classrooms, it is endemic to most co-operative interchange activities. Thus, the argument runs, co-operative learning activities entail negotiation of meaning and interaction which results in comprehensible input which results in language acquisition.

2. Efficiency. Efficiency arguments typically turn on "Time on Task" and "Means Goals Match" reasoning. A number of studies in a number of areas have held that learning and retention are directly and positively correlated with time and intensity of study of the content whose mastery is being measured. The more you study something, the more likely you are to learn it. The more time on task, the greater the probability of task mastery. If the goal of learning is, say, conversational fluency, then the more time spent on learning relevant to conversation, the more likely one is to become conversationally fluent.

Means-Goals Match is the label for the hypothesis that learning activities should as much as possible resemble learning goals. If the goal of language learning is recall of grammar rules then memorizing grammar rules is the appropriate means. If the goal of language learning is conversational fluency then the appropriate instructional means is conversational practice with language matched partners.

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Co-operative communication activities marry time on task to goal matching instructional means (ie Conversational Talk). Therefore such activities, it is argued, represent the most efficient means by which to achieve conversational fluency.

3. Sociability. Human beings, it is held, are endowed with a "Compulsion to Converse." (Weeks, 1979) The optimal, perhaps, only way to engender empathetic understanding between students of different social, ethnic, and economic backgrounds is through language-linked cooperatively undertaken activities (via team sport, for example). Kagan holds that co-operative learning methods were created principally to address major social problems of the United States educational system ie,

(a) the failure of the system to hold and educate minority students
(b) the failure of the system to create positive race relations
(c) the failure of the system to socialize students to pro social values and behaviours such as respect and care for others and knowledge of when and how to co-operate and help. (Kagan, 1986)

While some, myself included, would dispute the claim that socialization through schooling "demands" gave rise to co-operative learning as an educational enterprise, few would dispute the evidence that cooperative learning methods have shown themselves effective in improving classroom climate and have contributed significantly to the pro social development of students including their verbal skills.

4. Worldliness. I have adopted this term not only because it yields the necessary "W" to complete my compass rose, but because it suggests two other characteristics of (most) co-operative learning activities which appear to contribute to their effectiveness as language learning devices. "Authenticity" is one of these characteristics.

Many language learners, particularly those in regular school and university settings, see language learning as not only unrelated to the real world outside of school, but also as unrelated to the real world inside of school. One of the things I will try to demonstrate in the workshop rather loosely linked to this paper is the relative ease with which co-operative learning activities can be constructed from "realia" and from content materials in other areas of educational study. One of the benefits of such materials is that learners can undertake language practice using materials which are quite transparently authentic in origin.

Worldliness suggests another characteristic of co-operative learning activities which also appears central to the success of such activities. At the risk of a minor tautology, I call this characteristic worldly-wisdom. By this term, I mean to suggest those kinds of student skills which are rarely acknowledged or re-

warded in formal educational settings. These are skills one sees drawn upon in parlour games such as "Charades". To such games, as to many co-operative learning tasks, learners bring a full range of personal knowledge, probabilities, hunches, intuitions, and paralinguistic skills. These are exercised in an attempt to convey or comprehend messages. In such tasks, learners are encouraged to employ the capabilities which allow them to function successfully in the myriad of partial information situations which are typical of daily, worldly life.

I have dealt at some length with the WHY's for cooperative learning. For many educators, and particularly for language educators, the more important concerns are the WHY NOT's. Often buried amongst the claims put forward favouring co-operative second language learning, have been a number of cautions and objections raised. These objections can also be loosely categorized under four broad headings. So as not to overwhelm the rose with both fair and foul petals, I will list four key areas of objection to co-operative second language learning, in twinned alliterations, and then comment on them. Let me note that these concerns are critical ones for second language teachers, and their relatively brief treatment here should not suggest that these concerns can be treated quickly or easily. There has been some research bearing on these issues. Considerably more research including the testing of teaching training procedures and practical classroom techniques is a critical next order or business for cooperatively inclined second language educators.

Objections to co-operative second language learning practices critically turn on concerns regarding

Muddled Modelling,
Faulty Feedback,
Chaotic Classes,
Native Noise.

Muddled Modelling is the concern that second language learners are by definition imperfect in the language of study. Second language communication between learners is likely to involve interlanguage or non-language forms rather than native language norms. Students may pick up bad language habits by modelling muddled forms used by their cooperating peers.

Faulty Feedback is the concern that peers may tolerate imperfect language on the part of their peers or, worse, provide correction where unwarrented. Only native speaking teachers can provide flawless feedback.

Chaotic Classes is the concern that pair or group work is going to result in classes out of teacher control with resulting noise, confusion, and disciplinary problems. The hubbub of many group communicating is likely to seem chaotic to administrators and other teachers even if a cooperative learning leader feels that groups are working productively.

Native Noise is the concern that students, particularly in monolingual class situations, are likely to revert to their first language or engage in code-switching in cooperative communication situations, particularly if there exists a team competitive incentive or build-up of frustration with a communicative task.

All of these are legitimate concerns and are frequently felt if infrequently expressed by teachers who are being urged to cooperativize their classes. These concerns need to be addressed directly and at length. In this presentation I can only briefly touch on some of the evidence bearing on these issues.

Muddled Modelling. First, it should be noted that those urging use of cooperative learning methods in second language classes have typically held different views of what facilitates language learning from those of their predecessors in language pedagogy. That is, they put emphasis on comprehensible input, negotiation of meaning, and comprehensible output rather than on native speaker modelling as essential to language learning. Thus, they are less concerned with muddled modelling than the previous generation of language teachers would be. They, in fact, might see the muddling as providing an authentic stimulus for learners to negotiate meaning. Along these lines, there is evidence that group work leads to more total student talk (Slavin, 1983) and to more comprehensible input (Porter, 1983) than does teacher-centered class work. Second, there is research evidence that shows that "the speech of learners in the small groups was significantly greater in both quantity and quality than that of learners in the teacher-led discussions" (Long et al, 1976). There are more recent reports that show that students do not produce more errors in unsupervised settings such as group work and do not learn erroneous language from one another (Porter, 1983).

Faulty Feedback. Similar comments can be made on this issue as were directed to the first point above. To cooperative learning advocates, negotiation opportunities are of more concern than miscorrections. Varonis and Gass (1983) report more negotiation of both meaning and interaction in non-native dyads than in dyads with native speakers. As regards Faulty Feedback itself, Bruton and Samuda (1980) report that in their study of group problem solving discussion, learners hardly ever miscorrected each other. In an unpublished study testing the efficacy of peer feedback in the teaching of composition to college age Thai students, Jacobs (undated) reported that there was "relatively little miscorrection, and even less often were miscorrections adopted in the rewritten drafts."

Chaotic Classes. Kohl speaks for many teachers who have difficulty when asked "to suspend one's fear of chaos... The spectre of chaos haunts many teachers, probably because they don't believe in their own strength or ability to handle the power they assume" (Kohl, 1969). There is considerable evidence from Hawaii, Malaysia, Thailand and elsewhere that teachers can acquire the classroom management skills that allow them to operate in animated but non-

chaotic group instructional settings. Commentary here comes mostly from teachers who have taught classes in which pair and group work was featured (eg Umrod, 1975).

However, successful management of cooperative classrooms involves mastery of new kinds of instructional skills which are not part of most teachers' repertoires. Acquisition of these skills is not necessarily quick or easy. Hawaii English Program teachers received seventy hours of in-service training before moving into team-taught HEP classes, and, in preparation for her reasonably short comparative study of whole class vs cooperative learning, Bejarano provided teachers in her study with thirty hours of pre-training in cooperative learning methods and, as well, provided follow-up in-class coaching.

There is also considerable evidence that teachers often return to more teacher-centered classroom styles when group learning project pressure wanes (Huberman and Miles, 1984). Closer examination of teacher role preparation appear to be critical next steps in this regard.

Native Noise. Do students use their native language in group communication activities and what effect does this have on their learning of the target language? Deen (1987) looked at this question is some detail in her study of students learning Dutch in cooperative learning and teacher-centered settings. Deen noted that Dutch was used more consistently in teacher-centered settings than in cooperative learning settings but that both the quality and quantity of student produced Dutch was greater in cooperative settings in teacher-centered settings. When students lapsed into English in cooperative settings it was "out of frustration with the task". Deen considers inhibition of native language use to be, in part, a question of successful task design which minimizes such frustration. She notes that Jigsaw use "might therefore be extremely effective for language learning because it gives students a chance to acquire the forms first and then creates a necessary condition for practice." Other research has shown that the frequency of task related talk, whether in the first or second language, was positively correlated with student gains in the second language (Cohen, 1985). Along a somewhat different line, I raised the question in a previous RELC Seminar as to whether classroom interaction should be encouraged to resemble authentic interaction in the community in which students might use the target language. In much of Southeast Asia, code-switching among bilinguals appears to be the norm rather than the exception. Should code-switching then be tolerated or encouraged in language classes in the region?

The above discussion does not resolve the WHY-NOTS that second language educators have raised and should raise in regards to proposals built around cooperative learning in language classes. It may suggest the state of current knowledge in regards to these areas of teacher concern and suggest some next general lines of research and development in support of cooperative learning.

CONCLUDING THOUGHTS

My thoughts on materials for cooperative learning have been imbedded in the discussion. Some summary comments might be useful. Materials in cooperative learning can be said to be of four types - manufactured, modelled, modified and mined.

Manufactured materials are those available as commercial products. Kagan (1987) describes several commercial packages including language-focused sets such as Cooperative Integrated Reading and Composition. Alemany Press has developed and markets a number of materials for group-based learning of English as a second language.

Modelled materials are those put together by teachers following the design of commercial or experimental materials. Several teachers have sent me copies of dyadic minimal pair exercises they have constructed following the model developed in the Back and Forth book Adrian Palmer and I wrote.

Modified materials are those taken from non-language learning sources and modified for language learning purposes. Most of the Jigsaw materials have been constructed by cutting up topical materials into sub-topical blocks. Thus, a piece on advertising might be cut up into individual content blocks dealing with newspaper, magazine, radio, television and billboard advertising. Individual group members would become experts on these sub-topics and report their information back to their group.

Mined materials are those from content areas which are used "as is" in a cooperative language study mode. Most of the Dansereau cooperative reading experiments, for example, use content materials mined from how-to manuals (eg "How to Fix a Lawn Mower").

Each of these have pros and cons associated with their use but all are worth consideration by language teachers interested in cooperative learning.

My own experience is that teachers feel most comfortable with cooperative learning materials which are familiar in content and purpose and which minimize classroom management problems. This view of educational innovation has been called "The Principle of Least Change". It was following this principle that Palmer and I decided to use dyadic minimal pair exercises and dialog puzzles in our cooperative learning materials. Minimal pair and dialog drills are familiar to language teachers in content and purpose and two person groups are the easiest groups to organize and oversee from a classroom management point of view. We feel these are good "least change" activities for teachers wishing to test the waters of cooperative learning.

Finally, we have been told that student achievement gains are contingent upon incentive structuring rather than upon task structuring (Slavin, 1984). This says that students work best with other students, cooperate best, communicate most effectively, persist most conscientiously when their grades depend in part on the

learning success of their cooperating partners. This notion of cross-student grade averaging probably strikes closer to the bone of contemporary educational practice, especially in Southeast Asia, than does any other suggestion for educational change. I think it is this premise and its possible interpretations that needs to be most thoroughly explored by educators such as yourselves.

Well, I have brought my small part of the jigsaw to the group. I'll be interested to see yours.